

## ABSTRACT OF THE DISCLOSURE

The invention relates to a method for the operation of a direct injection diesel engine (1) which is operated in a first operating region (A) corresponding to low to medium partial load ( $L_L$ ) in such a way that fuel combustion takes place at a local temperature ( $T_L$ ) below the temperature of  $\text{NO}_x$  formation and with a local air ratio ( $\lambda_L$ ) above the limit value for soot formation ( $\lambda_{LS}$ ), and where fuel injection (I) starts in a range of between  $50^\circ$  to  $5^\circ$  crank angle (CA) before top dead center (TDC) of the compression phase and where exhaust gas is recirculated at an exhaust gas recirculation rate (EGR) of 50% to 70%. In order to achieve high efficiency in each operating region (A, B, C) while keeping  $\text{NO}_x$  and particulate emissions low, it is provided that in a second operating region (B) corresponding to medium partial load, fuel injection is started in a range from approximately  $2^\circ$  crank angle (CA) before top dead center (TDC) to approximately  $20^\circ$  crank angle (CA) after top dead center (TDC).

Fig. 1